

DETAILED LISTING OF THE CLAIMS:

1. (Currently Amended) An energy delivery device for use with a medical treatment system, wherein the energy delivery device comprises:

An optical fiber having a light diffusing section located at a distal end and a temperature sensor for measuring temperature located substantially adjacent to said light diffusing section, said optical fiber being adapted to deliver generated laser light energy therethrough;

A memory device, said memory device having data programmed therein, including data representing said data being specifically associated with the energy self-absorption properties of said optical fiber;

Wherein said optical fiber and said memory device are operatively connected to the medical treatment system during use of said medical treatment system; and

Wherein during use of said medical treatment system, said measured temperature and said data representing the energy self-absorption properties are provided to said medical treatment system.

2. (Original) An energy delivery device according to claim 1, wherein said data includes a calibration parameter.

3. (Original) An energy delivery device according to claim 2, wherein said calibration parameter is indicative of a self-heating characteristic of said optical fiber.

4. (Original) An energy delivery device according to claim 3, wherein said self-heating characteristic is associated with a power level.

5. (Original) An energy delivery device according to claim 3, wherein said self-heating characteristic is a function of a power level.

6. (Original) An energy delivery device according to claim 5, wherein said function is modeled by an equation.

7. (Original) An energy delivery device according to claim 6, wherein said equation is a linear equation.

8. (Original) An energy delivery device according to claim 3, further comprising a connector wherein said optical fiber and said memory device are attached to said connector.

9. (Original) An energy delivery device according to claim 8, wherein said optical fiber has a proximal end and a distal end, said distal end comprising a penetrating tip.

10-11 (Canceled)

12. (Original) An energy delivery device according to claim 11, wherein said temperature sensor includes alexandrite particles.

Claims 13-20 (Canceled)

21. (Currently Amended) A method of producing an energy delivery device for delivering laser light energy therethrough for the treatment of human tissue ~~wherein the energy delivery device includes a memory device, said method~~ comprising the steps of:

providing an energy deliver device including an optical fiber having a light diffusing section located at a distal end and a temperature sensor located substantially adjacent to the light diffusing section, and a memory device

- (i) measuring at least one self-heating characteristic of said energy delivery device;
- (ii) determining one or more calibration parameter indicative of said self-heating characteristic;
- (iii) storing said calibration parameter in said memory device;
- (iv) reading said calibration parameter from said memory device;
- (v) setting a power level for the energy delivery device;
- (vi) reading a measured temperature with said temperature sensor;
- (vii) calculating a corrected temperature value using said calibration parameter and said measured temperature; and
- (viii) adjusting said power level in response to said corrected temperature value.

22. (New) A medical treatment system comprising:

An energy generator adapted to generate laser light energy;

An energy delivery device adapted to delivery said generated laser light energy, said energy delivery device including a connector at a proximal end for coupling with said energy generator, an optical fiber, a temperature sensor for measuring temperature at a distal end region of said optical fiber, and a memory device having data programmed therein including data representing energy self-absorption properties of said optical fiber;

Wherein when the energy delivery device is coupled to said energy generator the energy delivery device is capable of providing said measured temperature and said data representing energy self-absorption properties to said processor, and the processor is capable of adjusting the generation of laser light energy by the energy generator based on both the measured temperature and data provided thereto.